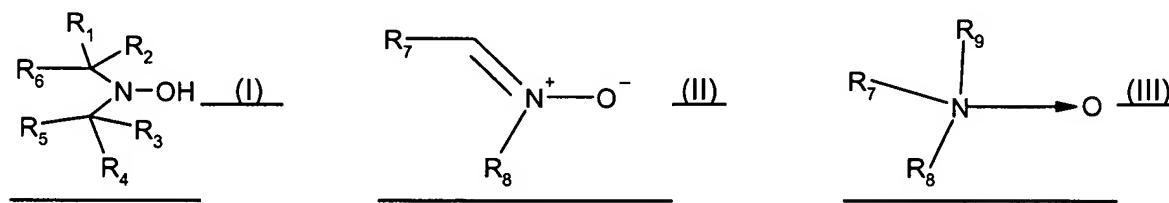


## In the Claims

1. (currently amended) A polymerizable composition comprising
  - a) an ethylenically unsaturated monomer;
  - b) a radical polymerization initiator; and
  - c) a hydroxylamine, a nitrone or an alkyl N-oxid having a molecular weight of more than 250 g/mol.

where the hydroxylamine, the nitrone and the alkyl N-oxid are of formulae (I), (II) and (III)



where

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are independently hydrogen, phenyl or C<sub>1</sub>-C<sub>4</sub>alkyl;

R<sub>5</sub> and R<sub>6</sub> are independently C<sub>7</sub>-C<sub>35</sub>alkyl, C<sub>7</sub>-C<sub>35</sub>alkenyl or C<sub>7</sub>-C<sub>35</sub>alkynyl, which may be unsubstituted or substituted by phenyl, halogen, NH<sub>2</sub>, N(R<sub>21</sub>)<sub>2</sub>, -OH, -CN, -NO<sub>2</sub>, or -COOR<sub>21</sub>; or which may be interrupted by -O- or -C(O)-; or

R<sub>5</sub> and R<sub>6</sub> together are an alkylene bridge, which may be interrupted by a -O-, -C(O)- or a -N(C<sub>1</sub>-C<sub>18</sub>alkyl)- group to form a heterocyclic 5, 6, 7 or 8 membered ring, which may be further substituted by a -O-C(O)-<sub>n</sub>R<sub>20</sub>, NR<sub>21</sub>-C(O)-<sub>n</sub>R<sub>20</sub> or a ketal group;

n is 1 or 2; wherein, when n is 1, R<sub>20</sub> is hydrogen or C<sub>1</sub>-C<sub>18</sub>alkyl and, when n is 2, R<sub>20</sub> is C<sub>1</sub>-C<sub>18</sub>alkylene; R<sub>21</sub> is hydrogen or C<sub>1</sub>-C<sub>18</sub>alkyl;

R<sub>7</sub> and R<sub>8</sub> are independently C<sub>8</sub>-C<sub>36</sub>alkyl; and

R<sub>9</sub> is C<sub>1</sub>-C<sub>4</sub>alkyl.

2. (previously presented) A polymerizable composition according to claim 1 wherein the ethylenically unsaturated monomer is selected from the group consisting of ethylene, propylene, n-butylene, i-butylene, styrene, substituted styrene, conjugated dienes, acrolein, vinyl acetate,

vinylpyrrolidone, vinylimidazole, maleic anhydride, (alkyl)acrylic acid anhydrides, (alkyl)acrylic acid salts, (alkyl)acrylic esters, (alkyl)acrylonitriles, (alkyl)acrylamides, vinyl halides and vinylidene halides.

**3. (previously presented)** A polymerizable composition according to claim 1 wherein the ethylenically unsaturated monomer is a compound of formula  $\text{CH}_2=\text{C}(\text{R}_a)-(\text{C}=\text{Z})-\text{R}_b$ , wherein Z is O or S;

R<sub>a</sub> is hydrogen or C<sub>1</sub>-C<sub>4</sub>alkyl;

R<sub>b</sub> is NH<sub>2</sub>, O<sup>-</sup>(Me<sup>+</sup>), glycidyl, unsubstituted C<sub>1</sub>-C<sub>18</sub>alkoxy, C<sub>2</sub>-C<sub>100</sub>alkoxy interrupted by at least one N and/or O atom, or hydroxy-substituted C<sub>1</sub>-C<sub>18</sub>alkoxy, unsubstituted C<sub>1</sub>-C<sub>18</sub>alkylamino, di(C<sub>1</sub>-C<sub>18</sub>alkyl)amino, hydroxy-substituted C<sub>1</sub>-C<sub>18</sub>alkylamino or hydroxy-substituted di(C<sub>1</sub>-C<sub>18</sub>alkyl)amino, -O-CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> or -O-CH<sub>2</sub>-CH<sub>2</sub>-N<sup>+</sup>H(CH<sub>3</sub>)<sub>2</sub> An<sup>-</sup>;

An<sup>-</sup> is a anion of a monovalent organic or inorganic acid; and

Me is a monovalent metal atom or the ammonium ion.

**4. (original)** A polymerizable composition according to claim 2 wherein the ethylenically unsaturated monomer is styrene, n-butylacrylate, tert-butylacrylate, methylacrylate, ethylacrylate, propylacrylate, hexylacrylate or hydroxyethylacrylate.

**5. (original)** A polymerizable composition according to claim 1 wherein the radical polymerization initiator is a azo compound, a peroxide, a perester or a hydroperoxide.

**6. (original)** A polymerizable composition according to claim 5 wherein the radical polymerization initiator is a azo compound or a peroxide.

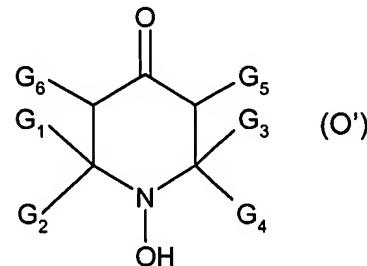
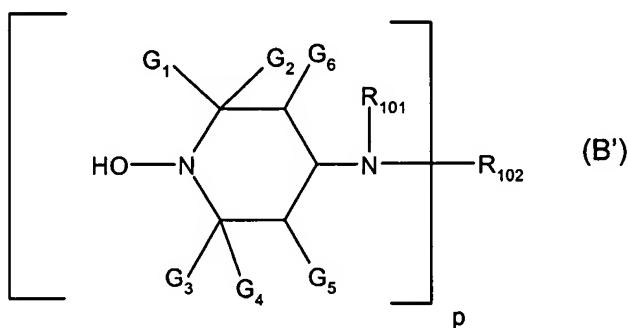
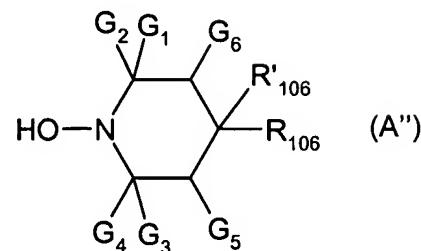
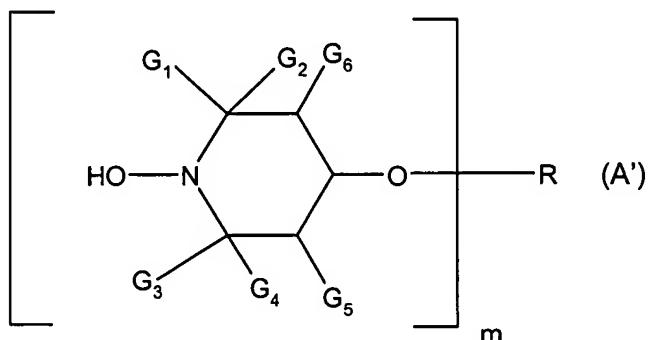
**7. (canceled)**

**8. (currently amended)** A polymerizable composition according to claim [[7]]1 wherein the comprising a hydroxylamine is of formula (I).

9. (currently amended) A polymerizable composition comprising

- a) an ethylenically unsaturated monomer;
- b) a radical polymerization initiator; and
- c) a hydroxylamine having a molecular weight of more than 250 g/mol

according to claim 7 wherein the compound of formula (I) is of formula A', A'', B' or O'



wherein

m is 1,

R is hydrogen, C<sub>1</sub>-C<sub>18</sub>alkyl which is uninterrupted or interrupted by one or more oxygen atoms, cyanoethyl, benzoyl, glycidyl, a monovalent radical of an aliphatic carboxylic acid having 2 to 18 carbon atoms, of a cycloaliphatic carboxylic acid having 7 to 15 carbon atoms, or an α,β-unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms;

p is 1;

R<sub>101</sub> is C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>5</sub>-C<sub>7</sub>cycloalkyl, C<sub>7</sub>-C<sub>8</sub>aralkyl, C<sub>2</sub>-C<sub>18</sub>alkanoyl, C<sub>3</sub>-C<sub>5</sub>alkenoyl or benzoyl;

$R_{102}$  is  $C_1$ - $C_{18}$ alkyl,  $C_5$ - $C_7$ cycloalkyl,  $C_2$ - $C_8$ alkenyl unsubstituted or substituted by a cyano, carbonyl or carbamide group, or is glycidyl, a group of the formula  $-CH_2CH(OH)-Z$  or of the formula  $-CO-Z$  or  $-CONH-Z$  wherein  $Z$  is hydrogen, methyl or phenyl;

$R_{106}$  and  $R'_{106}$  together are both hydrogen, a group  $=O$  or  $=N-O-R_{120}$  wherein

$R_{120}$  is H, straight or branched  $C_1$ - $C_{18}$ alkyl,  $C_3$ - $C_{18}$ alkenyl or  $C_3$ - $C_{18}$ alkinyl, which may be unsubstituted or substituted by one or more OH,  $C_1$ - $C_8$ alkoxy, carboxy

or  $C_1$ - $C_8$ alkoxycarbonyl; or is  $C_5$ - $C_{12}$ cycloalkyl or  $C_5$ - $C_{12}$ cycloalkenyl;

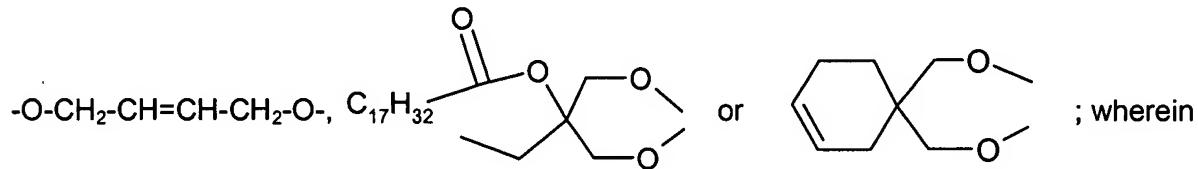
or is phenyl,  $C_7$ - $C_9$ phenylalkyl or naphthyl which may be unsubstituted or substituted by one or more  $C_1$ - $C_8$ alkyl, halogen, OH,  $C_1$ - $C_8$ alkoxy, carboxy or  $C_1$ - $C_8$ alkoxycarbonyl;

or is  $-C(O)-C_1-C_{36}$ alkyl, or an acyl moiety of a  $\alpha,\beta$ -unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms;

or is  $-SO_3^-Q^+$ ,  $-PO(O^-Q^+)_2$ ,  $-P(O)(OR)_2$ ,  $-SO_2R_2$ ,  $-CO-NH-R_2$ ,  $-CONH_2$ ,  $COOR_2$ , or  $Si(Me)_3$ , wherein  $Q^+$  is  $H^+$ , ammonium or an alkali metal cation; or

$R_{106}$  and  $R'_{106}$  are independently  $-O-C_1-C_{12}$ alkyl,  $-O-C_3-C_{12}$ alkenyl,  $-O-C_3-C_{12}$ alkinyl,  $-O-C_5-C_8$ cycloalkyl, -O-phenyl, -O-naphthyl or  $-O-C_7-C_9$ phenylalkyl; or

$R_{106}$  and  $R'_{106}$  together form one of the bivalent groups  $-O-C(R_{121})(R_{122})-CH(R_{123})-O-$ ,  $-O-CH(R_{121})-CH_{122}-C(R_{122})(R_{123})-O-$ ,  $-O-CH(R_{122})-CH_2-C(R_{121})(R_{123})-O-$ ,  $-O-CH_2-C(R_{121})(R_{122})-CH(R_{123})-O-$ ,  $-O-o$ -phenylene-O-,  $-O-1,2$ -cyclohexyliden-O-,



$R_{121}$  is hydrogen,  $C_1$ - $C_{12}$ alkyl, COOH,  $COO-(C_1-C_{12})$ alkyl or  $CH_2OR_{124}$ ;

$R_{122}$  and  $R_{123}$  are independently hydrogen, methyl ethyl, COOH or  $COO-(C_1-C_{12})$ alkyl;

$R_{124}$  is hydrogen,  $C_1$ - $C_{12}$ alkyl, benzyl, or a monovalent acyl residue derived from an aliphatic, cycloaliphatic or aromatic monocarboxylic acid having up to 18 carbon atoms;

$G_6$  is hydrogen and  $G_5$  is hydrogen or  $C_1$ - $C_4$ alkyl, and

$G_1$ ,  $G_2$ ,  $G_3$  and  $G_4$  are methyl; or

$G_1$  and  $G_3$  are methyl and  $G_2$  and  $G_4$  are ethyl or propyl or  $G_1$  and  $G_2$  are methyl and  $G_3$  and  $G_4$  are ethyl or propyl.

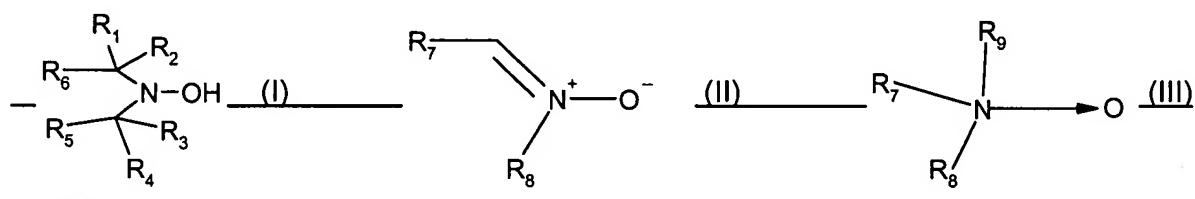
**10. (currently amended)** A polymerizable composition according to claim [[7]]1 wherein in-  
the comprising a hydroxylamine of formula (I) where

$R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$  are hydrogen; and  
 $R_5$  and  $R_6$  independently are  $C_7$ - $C_{35}$ alkyl or  $C_7$ - $C_{35}$ alkenyl.

**11. (currently amended)** A process for preparing an oligomer, a cooligomer, a polymer or a copolymer (block, random or graft) by free radical polymerization of at least one ethylenically unsaturated monomer or oligomer, which comprises (co)polymerizing the monomer or monomers/oligomers in the presence of

- b) a free radical initiator and
- c) a hydroxylamine, a nitrone or an alkyl N-oxid having a molecular weight of more than 250 g/mol,

where the hydroxylamine, the nitrone or the alkyl N-oxid are of formulae (I), (II) or (III)



where

$R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$  are independently hydrogen, phenyl or  $C_1$ - $C_4$ alkyl;  
 $R_5$  and  $R_6$  are independently  $C_7$ - $C_{35}$ alkyl,  $C_7$ - $C_{35}$ alkenyl or  $C_7$ - $C_{35}$ alkinyl, which may be unsubstituted or substituted by phenyl, halogen,  $\text{NH}_2$ ,  $\text{N}(\text{R}_{21})_2$ ,  $-\text{OH}$ ,  $-\text{CN}$ ,  $-\text{NO}_2$ , or  $-\text{COOR}_{21}$ ; or which may be interrupted by  $-\text{O}-$  or  $-\text{C}(\text{O})-$ ; or  
 $R_5$  and  $R_6$  together are an alkylene bridge, which may be interrupted by a  $-\text{O}-$ ,  $-\text{C}(\text{O})-$  or a  $-\text{N}(\text{C}_1\text{-}\text{C}_{18}\text{alkyl})-$  group to form a heterocyclic 5, 6, 7 or 8 membered ring, which may be further substituted by a  $-\text{O}-\text{C}(\text{O})-\text{R}_{20}$ ,  $\text{NR}_{21}-\text{C}(\text{O})-\text{R}_{20}$  or a ketal group;  
 $n$  is 1 or 2; wherein, when  $n$  is 1,  $\text{R}_{20}$  is hydrogen or  $C_1$ - $C_{18}$ alkyl and, when  $n$  is 2,  $\text{R}_{20}$  is  $C_1$ - $C_{18}$ alkylene;  $\text{R}_{21}$  is hydrogen or  $C_1$ - $C_{18}$ alkyl;  
 $R_7$  and  $R_8$  are independently  $C_8$ - $C_{36}$ alkyl; and  
 $R_9$  is  $C_1$ - $C_4$ alkyl.

**12. (previously presented)** A process according to claim 11 wherein the polymer obtained has a polydispersity of between 1.1 and 2.5.

**13. (previously presented)** A process according to claim 11 wherein the polymerization is carried out by heating and takes place at a temperature of between 70°C and 160°C.

**14. (original)** A process according to claim 11 wherein the hydroxylamine, the nitrone or the alkyl N-oxid having a molecular weight of more than 250 g/mol is present in an amount of 0.001 to 10 mol % based on the monomer or monomers.

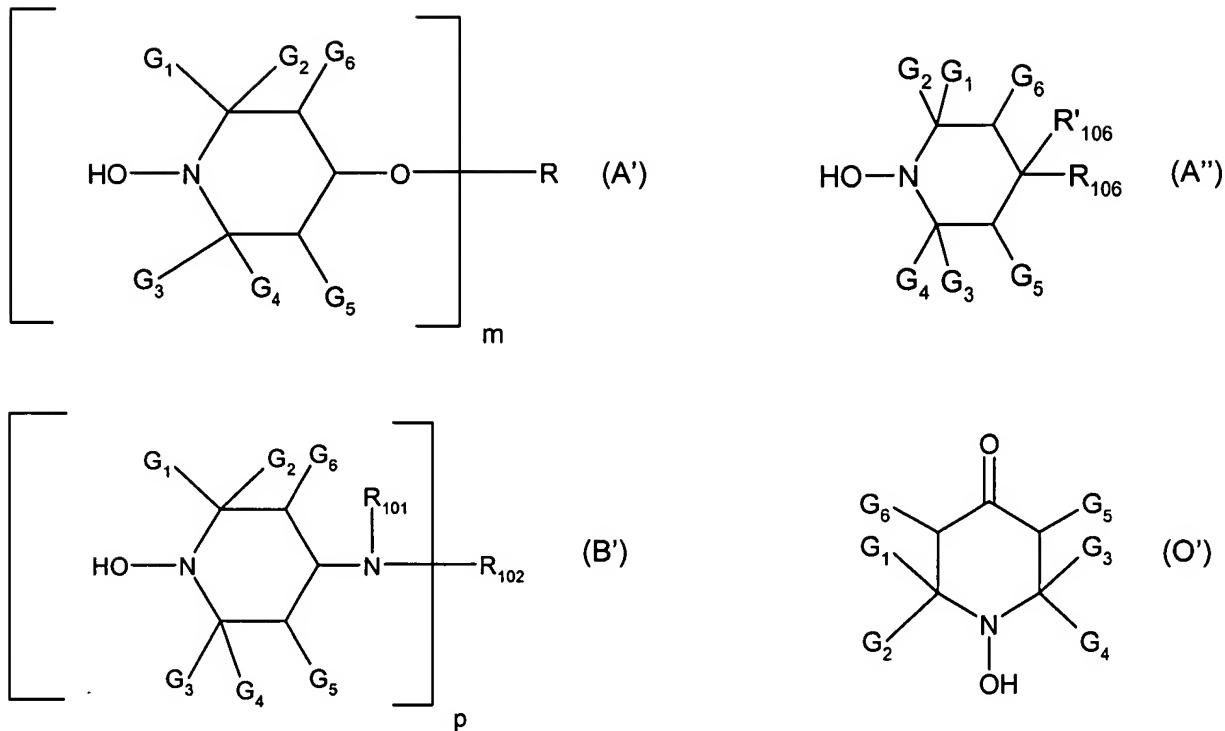
**15. (original)** A process according to claim 11 wherein the weight ratio between the radical polymerization initiator and the hydroxylamine, the nitrone or the alkyl N-oxid having a molecular weight of more than 250 g/mol is from 1:5 to 5:1.

**16. (previously presented)** A polymer or copolymer obtained by a process according to claim 11.

**17. (canceled)**

**18. (new)** A process for preparing an oligomer, a cooligomer, a polymer or a copolymer (block, random or graft) by free radical polymerization of at least one ethylenically unsaturated monomer or oligomer, which comprises (co)polymerizing the monomer or monomers/oligomers in the presence of

- b) a free radical initiator and
- c) a hydroxylamine having a molecular weight of more than 250 g/mol of formula A', A'', B' or O'



wherein

$m$  is 1,

$R$  is hydrogen,  $C_1-C_{18}$ alkyl which is uninterrupted or interrupted by one or more oxygen atoms, cyanoethyl, benzoyl, glycidyl, a monovalent radical of an aliphatic carboxylic acid having 2 to 18 carbon atoms, of a cycloaliphatic carboxylic acid having 7 to 15 carbon atoms, or an  $\alpha,\beta$ -unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms;

$p$  is 1;

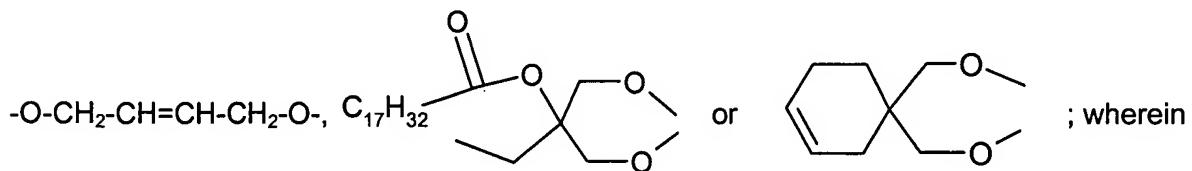
$R_{101}$  is  $C_1-C_{12}$ alkyl,  $C_5-C_7$ cycloalkyl,  $C_7-C_8$ aralkyl,  $C_2-C_{18}$ alkanoyl,  $C_3-C_5$ alkenoyl or benzoyl;

$R_{102}$  is  $C_1-C_{18}$ alkyl,  $C_5-C_7$ cycloalkyl,  $C_2-C_8$ alkenyl unsubstituted or substituted by a cyano, carbonyl or carbamide group, or is glycidyl, a group of the formula  $-CH_2CH(OH)-Z$  or of the formula  $-CO-Z$  or  $-CONH-Z$  wherein  $Z$  is hydrogen, methyl or phenyl;

$R_{106}$  and  $R'_{106}$  together are both hydrogen, a group  $=O$  or  $=N-O-R_{120}$  wherein

$R_{120}$  is H, straight or branched  $C_1-C_{18}$ alkyl,  $C_3-C_{18}$ alkenyl or  $C_3-C_{18}$ alkinyl, which may be unsubstituted or substituted by one or more OH,  $C_1-C_8$ alkoxy, carboxy or  $C_1-C_8$ alkoxycarbonyl; or is  $C_5-C_{12}$ cycloalkyl or  $C_5-C_{12}$ cycloalkenyl; or is phenyl,  $C_7-C_9$ phenylalkyl or naphthyl which may be unsubstituted or substituted by one or more  $C_1-C_8$ alkyl, halogen, OH,  $C_1-C_8$ alkoxy, carboxy or  $C_1-C_8$ alkoxycarbonyl;

or is  $-C(O)-C_1-C_{36}\text{alkyl}$ , or an acyl moiety of a  $\alpha,\beta$ -unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms; or is  $-SO_3^-Q^+$ ,  $-PO(O^-Q^+)_2$ ,  $-P(O)(OR)_2$ ,  $-SO_2-R_2$ ,  $-CO-NH-R_2$ ,  $-CONH_2$ ,  $COOR_2$ , or  $Si(Me)_3$ , wherein  $Q^+$  is  $H^+$ , ammonium or an alkali metal cation; or  $R_{106}$  and  $R'_{106}$  are independently  $-O-C_1-C_{12}\text{alkyl}$ ,  $-O-C_3-C_{12}\text{alkenyl}$ ,  $-O-C_3-C_{12}\text{alkinyl}$ ,  $-O-C_5-C_8\text{cycloalkyl}$ ,  $-O\text{-phenyl}$ ,  $-O\text{-naphthyl}$  or  $-O-C_7-C_9\text{phenylalkyl}$ ; or  $R_{106}$  and  $R'_{106}$  together form one of the bivalent groups  $-O-C(R_{121})(R_{122})-CH(R_{123})-O-$ ,  $-O-CH(R_{121})-CH_{122}-C(R_{122})(R_{123})-O-$ ,  $-O-CH(R_{122})-CH_2-C(R_{121})(R_{123})-O-$ ,  $-O-CH_2-C(R_{121})(R_{122})-CH(R_{123})-O-$ ,  $-O\text{-o-phenylene-O-}$ ,  $-O\text{-1,2-cyclohexyliden-O-}$ ,



$R_{121}$  is hydrogen,  $C_1-C_{12}\text{alkyl}$ ,  $COOH$ ,  $COO-(C_1-C_{12})\text{alkyl}$  or  $CH_2OR_{124}$ ;

$R_{122}$  and  $R_{123}$  are independently hydrogen, methyl ethyl,  $COOH$  or  $COO-(C_1-C_{12})\text{alkyl}$ ;

$R_{124}$  is hydrogen,  $C_1-C_{12}\text{alkyl}$ , benzyl, or a monovalent acyl residue derived from an aliphatic, cycloaliphatic or aromatic monocarboxylic acid having up to 18 carbon atoms;

$G_6$  is hydrogen and  $G_5$  is hydrogen or  $C_1-C_4\text{alkyl}$ , and

$G_1$ ,  $G_2$ ,  $G_3$  and  $G_4$  are methyl; or

$G_1$  and  $G_3$  are methyl and  $G_2$  and  $G_4$  are ethyl or propyl or  $G_1$  and  $G_2$  are methyl and  $G_3$  and  $G_4$  are ethyl or propyl.